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PSYCHOLOGY AND SCIENTIFIC METHODS

DUALISM AND EARLY MODERN PHILOSOPHY¹

THE chief distinction, it has been said, between ancient philosophy and modern philosophy is that the former was cosmological, the latter, epistemological. It might have been added, and with equal truth, that modern philosophy, in becoming epistemological, had become psychological as well. Or, if philosophy has always possessed a psychological interest and basis, modern philosophy may be termed *psychological* in a sense deeper and more far-reaching than any sense in which the term could be applied to pre-Christian thought. This is indicated by the rather peculiar fact that so many of the classics of modern philosophy are important marks in the history of psychology. Furthermore, the more consciously epistemological the character and purpose of the work, the greater is its significance for the development of psychological theory. In these works the psychology of the writer—that is, what we of to-day would call his psychology—is inextricably interlaced with the epistemological inquiry. A treatise on the passions of the soul or a study of the sense-organs and sensation is called “philosophy.” And this expresses not merely the ancient inclusiveness of the term, but also the fact that such a study was felt to be peculiarly germane to philosophy in the narrower sense of the latter term. With increase of specialization in investigation and the partitioning of the realm of events that ensued upon the acquisition of new conceptual instruments and the development of new distinctions, a more conscious methodology and direction of purposes

¹ This paper is a synopsis of the introductory portion of a larger writing which the author hopes to undertake. In this it is planned to trace historically the effects of the philosophical doctrine of a dualism of substances upon psychology in its earlier modern stages; and also to portray the influence exerted by the psychology grounded upon that doctrine on the course of later philosophy, and more particularly, of epistemology. It is an essential element of the thesis to be maintained that the after-effects of the dualism appear even in times and in movements in which the two-substance theory is formally discredited. This note is appended in order to indicate the context in which this paper is to be understood and also as an explanation of its incomplete character. The writer wishes to acknowledge his indebtedness to Professor John Dewey for the assistance in writing this paper derived from his suggestions and criticisms.

arise. As a consequence, psychology has gradually acquired a certain independence of philosophy and a more dignified status as a science in its own right. Yet even now philosophy is as dependent on psychology as in the days when the distinction between the two had not been recognized. The point of importance is not that psychology attained its independence so late, but rather that only in the light of present distinctions and present relations between philosophy and psychology can we discriminate between the *psychology* and *philosophy* of the early-modern classics. Perhaps it may become apparent that even after their divergence their courses of development were determined by the assumptions and prejudices inherent in their common origin. The persistence of these elements still obscures the problems of psychology and epistemology. Psychology, even to-day, is bothered with the encumbrances of its heritage. It has won its independence of philosophy in a formal sense; the psychologist to-day may go his way, if he so please, in serene indifference to philosophical dictation. But psychology has not yet won its independence of the philosophic doctrines of the days of its youth. The hands of Locke and Descartes are still upon it.

The psychological character of early-modern epistemology is, of course, a commonplace of the history of philosophy. Modern philosophy, devoted primarily to the problem of knowledge, turned to psychological investigations. Philosophy had done this before, but never so whole-heartedly and with such conviction of the unqualified necessity for such aid. The first step in philosophizing was the examination of the knowing subject and his powers.

It would be a one-sided view, however, to think that the needs of epistemology alone account for the movement. The emphasis on the desirability of a study of the *human understanding*, the *soul*, the *faculties of the mind*, and the *nature of ideas* is not wholly explained by the demand for a solution of the knowledge-problems. It is equally exact to state that the problem of knowledge became acute because people had acquired certain general convictions as to the human understanding and the thinking principle. Ideas concerning the nature of the knower—in short, the character of the prevailing psychology—are partly responsible for the rising demand for psychological aid in epistemological inquiry. Some of the difficulties which Descartes, Locke, and their compeers encountered are attributable to notions of a psychological kind which were prior to their investigations and determinative of the course of inquiry rather than resultants of their investigations.

It was a jumble of ideas, needs, beliefs, and aspirations that created the situation that early-modern philosophers faced. The position of psychology as a necessary propædæutic for epistemology be-

came clearly perceived and expressed a clearly cognized purpose. But this did not happen all at once. The process of clarification took time. The important point is that when the need of such a propædæutic was clearly conceived, the conditions that generated the psychological problem had already partially organized the subject-matter of investigation. The epistemological demand for detailed knowledge of the subject's constitution and powers became imperious under the surveillance of certain general ideas as to what that knowing subject is. Psychological problems, therefore, received formulation within the limits of metaphysical notions of the nature of human life, the human being and the world. This was speedily revealed: at an early date psychology is forced to deal with two worlds, the worlds of matter and mind, corporeality and spirituality. On the one hand it was forced into physiological channels, and sensations and sense-organs, images and animal spirits were of capital importance. On the other, it had to delve into the depths of the soul, to expound the operations of spirit; and reason, the inner light of nature, and the immediacy of conscious experience were of pressing concern. Metaphysics was adumbrated in psychology, and psychological findings did not lack metaphysical reverberations. In the course of time the problems of mind and body came to be almost indissolubly connected with psychology and psychology with them. Just what psychology is, what its subject-matter is, and how it should study that subject-matter are questions not wholly decided even in the present.

A cursory survey of recent tendencies will reveal many more or less sporadic attempts to eject the mind-body problem from epistemology and psychology, and, if it be adjudged a genuine problem, to relegate it to metaphysics. The attempt to write a psychology without a soul is no new quest; the more recent plan, it seems, is to write a psychology without a consciousness. The parallelistic doctrine (and for that matter the interactionist doctrine with its virtual parallelism) are coming to be regarded as heuristic principles to be retained until such time when they will no longer be of service. Whatever may be the immediate causes of the so-called behavioristic movement, at a distance it may be viewed as a struggle against the ancient entangling alliances.

These movements are symptomatic of a deepening conviction that "soul" and "consciousness" have too often served as a reliquary for the irreducible elements of difficulties, if not, indeed, a matrix in which problems of doubtful validity are engendered; and further, that the problems of consciousness have too often been saddled upon psychology. The desire to reduce the rôle of consciousness to a minimum is evident—one can surely appeal to the Neo-Realists as wit-

nesses. Professor James has expressed the opinion that consciousness, even as in the past the less innocuous term soul, is on the verge of disappearing from philosophy.² Yet with all this we can still trace the persistent influence of the metaphysics that presided over the birth of modern psychology.

If psychology in modern philosophy received its peculiar direction through conceptions common to the thought of that time, philosophy, resting upon a psychological basis, has inevitably been affected by the effects in psychology of those conceptions. The process is circular. Psychology received a certain character through the philosophical matrix from which it sprang; and later philosophy, through its appeal to psychology, is influenced in devious ways by the older doctrines which often it wishes to repudiate. These influences will be enumerated in the sequel. For the present, the point to be made clear is that if philosophy originally prejudiced the character of psychology, psychology in turn has affected the character of philosophy; thus psychology continually acts as a linkage between early-modern and more recent philosophies.

A study of the influences under whose auspices early modern psychology got under way may serve to cast light upon the present difficulties of psychology and philosophy; and in that hope this essay is presented. Now it seems to the writer that many difficulties of psychology and philosophy are derived from the influences of the doctrine of the dualism of substances in its interaction with medieval ideas concerning knowledge and the growth of the new sciences of nature. Psychology occupies at present an anomalous position. On the one hand, it is generally regarded as having a peculiarly private realm of data of its own, the events of consciousness, the mental life, or the psychical. On the other hand, explicitly or implicitly, it is forced to concern itself with a twofold set of data—the psychical and the physical (and neurological). It may claim its own realm of data, but continually leaves it to enter the fields of the physicist and neurologist. There are, perhaps, some movements gathering strength that would leave the realm of the psychical and place psychology squarely in the neurological field. But it is noteworthy that such tendencies are to many inquirers equivalent to an abandonment of the psychological enterprise altogether. For the most part, to the orthodox the science is concerned with two existential series, the psychical and the neurological. The extent to which the one or the other series is considered as primarily the province of the science varies with the point of view of the student. But in the main the results of investigation are formulated in terms that imply the two existential series.

² William James, *Essays in Radical Empiricism*, p. 2.

The psychologist is content to leave the question of the relation of the two fields to the metaphysician. He may be privately convinced of the ultimate irreducibility of the two series, or he may have the opposite belief; but as psychologist, the duality is generally accepted as a necessary assumption or working principle of the science; or at least as the readiest way of getting rid of a nasty problem. Some sort of correlation between the series—the neuroses and psychoses—he is compelled to posit or admit in order to facilitate his work; psycho-neural parallelism or psycho-neural interaction are the hypotheses generally resorted to. And if the radical asserts that his science does not need to take into consideration consciousness or the psychical, and avoids them in the formulation of problems and results, he is at least put in the position of one reacting violently against tradition and orthodoxy.³

The state of affairs is such that one might bluntly put the question: if psychology is physiological, dependent on neurology, or to the extent to which it is so dependent, is it psychology at all? Certainly in one sense the query is pertinent: is there such a thing as physiological psychology? One extreme answer might be that there is no such thing, that neurological facts are wholly irrelevant to psychology properly speaking. But such a view would have few adherents to-day. At the other extreme would be those who anticipate the complex reduction of psychology to the physiology of the nervous system. The more common view is somewhere in between the extremes, and psychology straddles the two realms of data as best it may. The experimentalist who is suspicious of the introspective method may formulate this apparent dilemma: if “psychology” isn’t a branch of physiology and neurology, it is no science at all; if it is a part of neurology, it isn’t “psychology” in any recognizable sense. The escape from the privacy of the individual consciousness is provided for by neurology, but neurology seems to be a departure from the psychical and from consciousness, and, therefore, to some minds, from psychology in the orthodox sense. There are some, perhaps, who anticipate the time when neurology, by a process of pacific penetration, will completely absorb the other science; and there are surely others who would deny that such a thing can come about.

This jumble of opinions, which surely does not parody the present situation, originates in the conception of the dual series of existences. The conception is awkward, problematic, but withal safely ensconced in scientific tradition and even more in the cultural tradition; it often seems unavoidable, but continually hampers and

³ There are, probably, psychologists to whom Professor Watson’s *Behavior* is a valuable contribution, while at the same time they are not sure whether the book is a contribution to psychology, or to some other science, as yet unnamed.

prejudices research and discussion; it provokes vexatious and insoluble problems, and it is used as a solution for problems. Psychology, in so far as it rests upon the notion of the dual series, is in unstable equilibrium. A psychologist who combats the genuineness of the idea, or its heuristic value, is immediately placed in an attitude of defiance; his position needs justification, and his apologetics has its center in a metaphysical problem.

Since epistemological theorizing customarily utilizes psychology as its point of departure, these difficulties in psychology are reflected in the former. Strive as we may, we can not wholly evade the consequences of carrying on the epistemological inquiry on the presupposition of existence and experience as dual. It is a difficult feat to avail oneself of psychological results formulated openly or secretly in language reflecting the duality, without erecting that duality of experience into a presupposition of the inquiry. The epistemologist may be a monist in his metaphysics, and yet his monism is often attained by the attempted establishment of the ultimate identity of the two series as modes of one substance, or the reduction of one of the series to the other; but this leaves the duality with credit scarcely impaired so far as the realm of immediate experience and inner and outer phenomena are concerned.

The epistemology that frankly accepts the duality of experience and existence and a psychology built upon that conception is forced to deal with two worlds—a world of things (including the stimuli of psychology) and a world of mind or consciousness. By definition they are qualitatively distinct, and at least in appearance irreducible. Since doubt that we have any knowledge at all does not trouble the lives of most people, epistemology in the main does not try to show how more knowledge can be attained, but how it happens that we have any at all, and the metaphysical status of the things we are said to know. A radical blighting skepticism about knowledge seems to be characteristic of very few people. A few disagreeable people jeer at the epistemologist by saying that everybody accepts the fact of knowledge while nobody can explain it—at least to the satisfaction of every one who cares about an explanation. Now the vital center of the difficulties encountered is this, that epistemology confronts the task of relating two worlds which have been more or less explicitly defined as unrelatable, or whose relation must be established outside of epistemology, if at all. Of course positions vary, and the foregoing is simply a general characterization. But the thought that knowing goes on in one world, while most of the things supposedly known are in another and qualitatively different world, is pretty general. The assumed equivalence of the expressions *to be experi-*

enced, to be in mind or consciousness, and to be known which Professor Dewey so strenuously contests, indicates the situation. If the epistemologist accepts the traditional dual series of events, whose dissimilarity is just one degree less striking than their concomitance, he is plagued with the vexatious circumstance that the knowing process is remote from the things known. If knowing is psychical and the things immediately dealt with are psychical, then any establishment of a connection with the totally different physical events is out of the question; for however circuitous the process of attempted verification, it goes on within the sphere of the psychical. Correspondence, however forcibly impressed upon us, must always remain matter of faith. A psychologist may accept the dual view, and accept the world of extra-psychical (physical) stimuli without bothering about proving its existence; while some epistemologists are constrained to doubt the existence of that world, must prove its existence, and make desperate efforts to prevent its being engulfed in the maw of an insatiable consciousness. Another type of epistemology may turn the difficulty into its fundamental principle, and *esse est percipi*, where the percipient and the perceived are psychical, defines the limits of discourse. Sundry efforts are found to make consciousness and the psychical disgorge the world it has swallowed and establish its independence. There is no need to enumerate the various ways in which the common difficulty is handled. So long as we are by definition confined to one world, getting to the other is equally by definition impossible. It seems that either the duality must be removed or the problems of epistemology so defined that, if such a thing is possible, the duality has nothing to do with it.

The writer is not concerned with the criticism of epistemological theories nor has he a theory to offer. The purpose of the paper is rather to discuss in some detail how the situation just outlined has come about. The problem is to indicate the interaction of conceptions which led to the duality of existence as the groundwork of psychology and so of epistemology.

The complexities of the total movement from orthodox scholasticism to the more or less definitive setting of modern psychological and epistemological problems reduce to three major moments: first, there is the dualism of substances as precipitated out of a plurality of qualitatively different substances; secondly, the newer scientific view of nature, of causality, and mechanism, and the establishment of the causal relation between object and sense-process; and, thirdly, the orthodox correspondence theory of knowledge in scholasticism and its later transformations. It is the interweaving of these three sets of ideas which eventuates in the situation whose origin we are attempting to outline.

The evolution here considered consists primarily of the genesis of the two-substance theory (with the body-mind dualism as a secondary form) and from this the genesis of the conception of the dual existential series. It is the latter doctrine which continues to influence psychology and epistemology long after the notion of substance has been dispossessed of its autocratic rights and driven from the field of psychology, an achievement largely to be accredited to Berkeley and Hume, who succeeded in turning substance from dogma into a problem of a transcendental character. The substance notion reappears, of course, but again as metaphysical and epistemological in so far as it could hardly be the one without the other, owing to the affiliation of the two disciplines. The process was about as follows: the attack on the doctrine of two substances, mind-substance and matter-substance, took two directions under the impulsion of dissimilar interests: on the one hand, there occurred the demolition of the notion of substance, and with its disappearance from psychology, the notion of two serial orders of existence, the extra-organic and intra-organic changes as one type (the field of physico-chemical science) and the (occasional) psychical accompaniment, the series of which constituted the second type, mental, psychical, or spiritual existence. On the other hand, under the influence of a strong metaphysical impulse, a monism of substance supplants the duality.

Now as the notion of substance, particularly in the form of the substantial soul, became evanescent, and this especially in the empirical tradition, the conception of a dual series of events has a double form, and involves a twofold correlation. Consciousness, mental states, or the series of psychical events, come to be treated as existences on their own account. The psychical fact is correlated, first, with the extra-organic object (stimulus, physical or chemical change), secondly, with the intra-organic neurological process. The former correlation represents the survival and adaptation of the older notion of the cognitive correspondence of idea and object. The latter correlation stands as a sequel of the older theory of objects causally impressing the soul through the nerves and animal spirits. Now according to the older doctrine of the two substances, interaction took place between the soul-substance and matter-substance. How it occurred was a mystery, of course, but was accepted as a supposition necessitated by the apparent nature of the facts of experience, especially of the volitional type. But with the growth of the dual series conception, the development of chemistry, physics, mechanics, and neurology, the notion of the interaction became more intractable; its mysteriousness became almost equivalent to unthinkableness. The dropping out of the substantial soul, with its own

potencies and hidden springs of energy, facilitated the rejection of the notion of the interplay. A psychology, in particular, that becomes progressively convinced of the subjectivity of sense-qualities and of the radical dissimilarity of quality and stimulus (and nerve-process), and resolves mental processes into elements of sense-qualities, has little use for interaction, and the notion of the governance of body by soul is meaningless. Mechanical causation, naturally, had its share in the movement. At any rate, though the notion of interaction never disappears completely, and the hypothesis of psycho-neural interaction persists as the modern representative of Descartes's theory of the unique functions of the pineal gland, the correlation of mental process and physiological process comes to be generally formulated as a parallelism of entities. And after all, the interaction hypothesis does not so much deny the qualitative unlikeness of the psychosis and the neurosis, nor their correlation, but rather, accepting these points, insists upon the interaction of the correlated processes, with, of course, allowance for the changes in the notion of correlation demanded by this additional element. Further, history seems to show that it is the interactionist who finds the reintroduction of a soul-principle most congenial.

Beyond the correlation, with or without interaction, psychology as such does not profess to go. The residual problems are metaphysical—and psychologists frequently seem relieved to get rid of them by this assignment. And here the metaphysical interest in substance reenters. A monistic ontology that succeeds a dualistic metaphysics finds a survival of that dualism shoved back upon it. Metaphysics must assimilate the duality that psychology, willingly and wittingly or not, has cherished. This means the assumption of the contrasted fields of existence as a metaphysical problem. The types of solution are various: the series become modes and phenomenal appearances of a single underlying truly real substance; or mayhap the "physical" series is found to be a projection and petrifying of the psychical series, so that after all there is but one type of phenomenal existence and in the psychical we meet with final reality. Or again the psychical series may be taken as an epiphenomenal manifestation of physical energies. Interaction is provided for or not, as the case may be. This is no exhaustive enumeration of the ways in which the assimilation occurs. The point of interest is that a monistic metaphysics is achieved by the *Aufhebung* of a duality that is in effect widely accepted.

This appears to be the general outline of the movement. If it is a characterization and not a caricature, the dualism of substances and the basing of psychology on the correlation of two existential

series force epistemology to deal with the problem of two worlds. The process has been, and continues to be, cyclical: epistemology and metaphysics assist in determining the character, methods, and data assumed by psychology and, in turn, using that psychology as its instrument, take upon themselves the perpetuation and solution of the problematic elements foisted upon psychology. The attempt to free metaphysics of epistemology misses fire—it would be better to free it of psychology and Descartes. And about the only way of freeing epistemology of psychology seems to involve calling traditional types of psychology all wrong.

The ideas which reached maturity in the thought of Descartes had a lengthy history, and a glance at the course of their development presents the outcome in a clearer light. Descartes, under the influence of relatively new ideas, precipitated from a solution of ancient ideas and convictions the dualism of substances and its corollary, the dualism of mind and body. The severity and stringency of the dualism had been approximated before, but it was primarily Descartes who fastened the thought of the duality upon the modern common consciousness.

Although in the philosophy of Descartes the mind-body dualism is really subordinate in importance to the general dualism, it may be that a gradually mounting conviction of the separability of body and soul, and of their dissimilarity in essence, value, and destiny was a prime factor in crystallizing the doctrine of the universal duality of substantial existence. That is, in the history of culture, as well as of philosophy proper, approximations to a duality of mind and body, coupled with other matters, were operative in producing a wider ontological dualism which involved the duality of mind and body in the human being as a corollary. It would be impossible within the compass of this paper to do more than hastily sketch these growing intimations of a radical difference between soul and body as it is found in the culture of earlier ages; a discussion of the transformations of the notion of substance in philosophy itself is hardly necessary. For it is the former that are more frequently neglected.

Certainly the notions of the separability of soul from body, of its immortality, and of its self-contained essential energy, long preceded the idea of a duality of substance. Erwin Rohde has shown that in general the feeling of the disparity of soul and body was engendered by religious interests among the Greeks, and more particularly by those Thracian cults whose origin indicates that they were not native to Greek genius; these cults were really intruders, and were never completely assimilated by the Greeks; and to whatever extent they

were assimilated, they were transformed. According to Rohde, the notion of an after-life of the soul in what is to us the proper sense, as a life peculiar to an immaterial principle, as we conceive it, was on the whole foreign to the Greek.⁴ But the cults of Eleusis and Dionysos contained the germs of those sharp moral and metaphysical contrasts which were peculiar to the spirit and needs of post-Aristotelian times, and were largely characteristic of the Oriental religions which flooded the Roman Empire. Among these fruitful elements was the cultivation of ecstasy, in which the soul is possessed by the God, or is in union with Him; this entered Greece as a new thing in the cult of Dionysos.⁵ The ecstasy was a foretaste of eternity, and its exaltation an evidence of the imperishability of the soul and of its separability from body. The necessity for purification is a corollary of the cult of the ecstatic moment, and of union with the deity. But again, just these ideas place the body in the position of a hindrance and encumbrance to the flight of the soul. And this idea could readily be assimilated by the notions of an inherently evil element in man and of the imprisonment of the soul in the body as a punishment and expiation, which the Orphic sect especially inculcated.⁶ Such ideas, however, were never wholly accepted by the Greeks; and they remained in large part excluded from the course of reflection and speculation. They reach their fruition in a later period.

Now these ideas, in so far as they were, or became, Greek, were elements of the religious culture of a folk, not the products of philosophy. They were, besides, infiltrations from without. The Homeric religion had no such spirit, and in so far as the formal official religion came to have them, they were acquired by this infiltration, and then not without opposition and transformation. Philosophy, however, from the start gave a different content to its terms from that connoted by the same terms in the cults and mysteries.⁷ It is noteworthy that the closest approximations to notions of the duality of soul and body and the radical difference between them appear in Plato, who seems to have felt the influence of the cults and mystics and mysteries more than any other of the greater philosophers. In this sense Aristotle more genuinely represents the philosophical tradition and Greek reflection than Plato.

It is in the writings of Plato that we discover the chief philosophical fountain-head of dualistic views of nature and man. Plato's teachings concerning the soul have their obscurities and in-

⁴ Rohde, *Psyche*, 3d ed., 1903, Band 1, p. 300.

⁵ *Ibid.*, Band 2, p. 4.

⁶ *Ibid.*, Band 2, pp. 20, 80, 101, 119 *et seq.*

⁷ *Ibid.*, Band 2, p. 139.

consistencies. The total effect, however, of his doctrine is to establish a dualistic view of man; or at least his doctrine could easily be accommodated to such a belief. His thought manifests the influence of the older theological views concerning the immortality of the soul, its dissimilarity from body, and the encumbrances to the true life of the soul that the body presents. The soul flutters uncertainly in a domain that is somehow above body and the sensible world and is somehow below the world of Ideas; in its pure, spiritual, and incorporeal nature the soul resembles the ideas more than it resembles anything else.⁸ Plato's difficulties revolve about the necessity of finding a place for the soul in both worlds. That the soul has desire and appetite only during its earthly life, and that it is the source of motion of the body show the pull in one direction; its immortality, spirituality, and preexistence shows the pull in the other direction. The dualisms of being and becoming, of soul and body, of reason and sense have undoubtedly a common root. The interesting question is the extent to which the sides of the dualisms were identified by Plato. Reason is certainly of the essence of the soul, and sense is primarily a bodily function. But to what extent is the soul like the Idea and the Idea like the soul? Are the Ideas spiritual so that the soul is one in essential nature with them? Probably the only answer one can make is that Plato's teaching tends to that result.

As was asserted before, the Platonic dualistic ideas were hardly expressive of the genius of the Greek race and cultural tradition, and Aristotle, in seeking to overcome them, is more nearly in harmony with that genius. Aristotle's teachings concerning the soul contain, if anything, more inconsistencies and waverings than those of Plato. But if the force of the latter makes for a rigid dualism, the cumulative effect of the former makes against it.

The dualism of the sensible and supersensible forms the common basis for the religious-philosophical movement of the post-Aristotelian, or Hellenic, and the patristic and medieval periods.⁹ It is in the much neglected Hellenic period that there arose a new spirit and new spiritual interests which transformed the culture received from the Greeks, suffused it with longings and hopes engendered by novel reactions to the circumstances of life. In the writer's belief, the transition at this time was a more profound change in human life and spirit than that which marks the transition from so-called medieval times to modernity. The elements that mark this great transmutation can not even be exhaustively enumerated in this paper. It is a point of the highest importance, first of all, that it was the teachings of Plato that were adjudged most in harmony with the tenor and

⁸ Cf. Rohde, *op. cit.*, Band 2, p. 263 *et seq.*

⁹ Cf. Windelband, *Geschichte der Philosophie*, Vol. 1, p. 166.

rhythm of life. The Platonic dualisms fitted human needs. The aspirations of men for salvation, for peace and freedom of spirit, for relief from the perplexities of existence; the search for a way of life affording security of soul and a guarantee of its abiding value and assurance of eternal conservation of these values and of the soul; a more vivid sensing of the evils of existence and a heightened appreciation of life's dissonances: all these formed a rich soil in which the Platonic teachings might be planted. Those currents of thought and feeling which had never been able to muddy the clear stream of Greek reflection so long as Greek life was maintained in the setting of the city-state now found a more congenial environment. However dissonant with classic Greek life, these preachings were assonant in the world empire and culture of Hellenic times. A general dislocation of values occurred: good and evil, perfection and imperfection, beauty and ugliness, were no longer characteristic of existence and life, but were divided up between two worlds and two lives. Good, perfection, and beauty were in another world and life, and the little of them that this life and world disclosed were but adumbrations of the genuine, original values in a real, supersensible, and supernal world and life. In such a matrix of thought and feeling the consciousness of sin, imperfection, impurity, coupled with a despair of human powers, rendered imperative an appeal to a divine agency for cleansing, forgiveness, spiritual support, and final salvation. One might point out as an exception the stoic belief in the rationality of existence and the trustworthiness of reason as a guide in life. But stoicism really forms no exception. For it is just because the stoic is haunted by doubts of these things and is sensitive to the manifold facts and experiences that threaten his beliefs that he so stubbornly upholds them and is ever in search of defenses for his position. This in itself illustrates the change from classic Greek life and thought. Even the stoic finds man self-sufficient only because man participates in a world-reason.

The Platonic contrast of the sensible and supersensible, of body and soul, and reason and sense naturally received modifications when assimilated by this growing spirit. The point remains, however, that this philosophy was more or less congenial to the new situation; and of course this new situation was itself in some degree defined by the Platonic philosophy. The Platonic dualisms, the stoic contrast between the rational and irrational, and the widespread tendency in the period after Aristotle to make a sharp differentiation in the ethical life between the inward life of consciousness and spirit and the outward sensible world all represent forces that tended to sun-

der more and more the soul from body, this world from that beyond, and aspiration from accomplishment. The ethics of moderation, prudence, and harmony of life was supplanted by the ethics of salvation. The dualism of God and the world which so vitally concerned Alexandrian philosophy pairs off with the other dualisms, and the religious contrast between the flesh and the spirit influenced and was influenced by all these movements. In the long run, matter, the irrational, the sensible, evil, desire, the world, the flesh, and the devil are grouped under the same emotional category; while the supersensible, goodness, beauty, righteousness, spirit, the inner moral life, the rational, and salvation evoke similar passionate attitudes. Matter consequently becomes tainted with evil, a thing very different from the imperfection characterizing it in separation from form, in Aristotelean terms.

Classic Greek philosophy had fathered a triplicate division of the total nature of man in spirit, soul, and body. The triple alliance was an unstable thing. Spirit as the very essence of rationality, as intuitive reason, has readily ascribed to it immateriality and separability from body. But the soul had connections with the body from which it could not so readily be freed. As the form of the body, and as having resident within it functions obviously physiological in character, it awkwardly mediates between the highest rational power and the body. This triple division was resolved into a twofold division under the influences of the ideas just described, especially under Platonic influence. However, where the Aristotelian tradition was dominant, an unequivocal dualism was hardly possible; the Aristotelian followers remained burdened with the master's inconsistencies.

No summary statement can do justice to the ideas and interests of the Hellenic period. It is clear, however, that the multitude of philosophies, religions, and *Welt Anschauungen*, were with a few exceptions akin in spirit. No further discussion is requisite to elucidate how these essentially religious and moral ideas, convictions, and dogmas must have converged upon the conception of the soul. Taken in the mass, they imply a certain transitoriness in the union of body and soul; the connection must be taken as adventitious and extrinsic. Under the spell of such assurances it was most convenient to regard the body as a temporary residence for the soul during an earthly sojourn of limited duration. Only the soul conceived as a principle aloof from the physical and corporeal could perdure amidst the unceasing changes of this world. The soul was of transcendent importance, and the welfare of body in theory at least was subordinate to welfare of spirit. The soul had a destiny, the body merely a life. Credence in that destiny demanded such a conception of soul

as would conform to the exigencies of belief; the greater the dissimilarity of body and soul, the more separable the two, and the less dependent the one upon the other, accordingly, the easier it was to fit the soul into the general scheme of things. If the compresence of body and soul became mysterious in the degree that their substantial unlikeness was affirmed, this was counterbalanced by the fact that the greater the unlikeness, the more acceptable the idea to a world-view such as this. The ascription of sin to the body, and in general to the physical, reinforced the dualistic doctrine. Imperfection of soul, sin, evil, and limitation were correlatives of the bodily imprisonment of the spirit. The exaltation of the glorious destiny and value of the soul naturally accompanied the degradation of body and the relegation to it of all that would be prejudicial to the interests of the soul. Such constructions are consonant with the world-plan of creation and salvation.

From this point on the notion of immaterial substance and of soul as such a substance are conceptions not infrequently encountered. The Platonic tradition spreads abroad, but the platonizing philosophers could not evade the difficulties inherent in the notion, and various sorts of compromising tendencies appeared. Especially do we come across reversions to idea of soul as consisting of subtle matter; the attenuated gossamery character of this soul-stuff softening its materiality. In fact, it may be said that this thought is never outworn, and crops out again and again in later ages. It was not easy to maintain unsullied the soul's immateriality, and it took time to establish the thought. Thus Tertullian found no stringent distinction between soul and body; both were corporeal, but the former was qualified by its fineness. Gregory of Nyssa's doctrine of mind as distributed according to some inexplicable plan of blending through all parts of the body shows how difficult it was to extricate the soul from all bodily entanglements. Plotinus, and with his assistance, St. Augustine, manage the closest approximation to the position later held by Descartes. Soul is for the former still the principle of motion, but it is incorruptible, having neither bulk nor quantity. St. Augustine, taking the standpoint of immediate experience, makes the principle of self-consciousness all-important. The dualism of body and soul is strait-laced: man is made of two substances, and soul-substance is immaterial and spiritual. Recourse to immediate experience is all the more necessary because no knowledge of soul can be derived from the examination of the body.

This complex of philosophical and extra-philosophical thoughts, of beliefs ecclesiastically formulated or precipitated from the fluid mass of folk-tradition, and of passional attitudes provoking an ontological and anthropological dualism and satisfied by it, forms but one

component of the total movement. A second component is the ancient problem of the relation of universal and particular, of matter and form, around which clustered so much of scholastic meditation. The medieval "matter" is, of course, the "matter" of Aristotle, not the matter of the modern chemist. The atomic theory in some form or other persists, being revised with vigor during the Renaissance. But to whatever extent the scholastic philosophers used the atomism derived from Democritus to explain the constitution of matter, the notion of matter was primarily used in the Aristotelian sense. Matter was the individuating principle; things were matter and form, their individuality arising from the individuation of form through matter. The term thus referred to that which was thought to explain the particularities of the world, and was a logical requirement and a metaphysical principle.

Now we have tried to show in some detail how ethical, religious, and theological ideas and requisites led to the acceptance of the opposition of God and the world, of true and transcendent reality to the finite, and of body to soul, as congenial tenets. To this movement the Platonic philosophers were particularly acceptable because of the relative ease with which Platonic ideas could be utilized to give a rational substratum to the constructions of imagination winged by such visions. The inner spirit and meaning of the dualities cherished by the leaders of the movement are peculiar to it. Their source is ethical and religious. Now the Aristotelian contrast between matter and form is from its inception different in spirit and intention, and rises from other motives. Its roots are metaphysical and epistemological. We have, therefore, two sets of dualities or contrasts, not one. There is, on the one hand, the dualism of God and the world, and of soul and body, the fruits of worldly despair and other-worldly yearnings, reinforced by such philosophic movements whose character facilitated their adaptation to the purposes of edification, moralizing, and salvation. On the other hand there is the doctrine of matter and form, derived from Aristotle, with its distinctions between God as pure form and the composites of nature, and of matter and form as indissoluble constituents of things and of man in contrast with pure intuitive reason, which, unlike the remainder of the soul, was free of alliance with corporeality. Now the former standpoint makes for complete dualism; the logic of the latter operates in the contrary direction. But the two sets of ideas do not remain dissevered. Through certain of the scholastics the interweaving of them is deliberately attempted. The result is that the distinction between matter and form takes on more and more of the connotation of the ethico-religious dualisms. Thus in the course of time the notion of soul as form, and as immaterial and ideal in

that sense, receives also the connotations that the term possesses in the ethico-religious dualisms; therefore to the immateriality of soul as form is conjoined its immateriality as a spiritual, non-extended, substance or principle whose essence is thought. Likewise the ontological distinction between form and matter becomes impregnated with the purport and implications of a theological world conception.

The assimilation of these two currents of ideas does not come without a struggle. Aquinas seeks to resolve all points of opposition and to synthesize the sets of ideas. When Descartes, subject to the dictates of the new science of nature, advocates, partly as presupposition and partly as theoretical explanation, his dualism of substances, the two lines of thought have fused and the Cartesian doctrine is properly envisaged. In explanation and in illustration of the process we turn to scholasticism.

For orthodox scholasticism, utilizing Aristotle, cognition took place through the apprehension of form. Its common assumption was that like was known by like. The form realized and actualized in intra-organic corporeality (potentiality) corresponds to the form realized in extra-organic materiality or potentiality. The similarity guarantees the veracity of cognition. Even in sense-perception the form is apprehended without matter. Thought apprehends the corporeal not directly, but by means of the ideal or immaterial species.

Aquinas may be selected as sufficiently representative to serve as illustration. According to Aquinas, the intellect requires the operation of the sensitive powers for the production of the phantasms or forms, the *species impressae*,¹⁰ and it can understand only by the aid of the phantasms.¹¹ The intellect as passive is its potentiality with respect to intelligible things.¹² To abstract the universal form from the particularities of sense is to render them intelligible, and this is the intellect as active and as understanding.¹³ The individual and particular are apprehended through sense and imagination.¹⁴ "There are two operations in the sensitive part. One, in regard of impression only, and thus the operation of the senses takes place by the senses being impressed by the sensible. The other is formation, inasmuch as the imagination forms for itself an image of an absent thing. . . ."¹⁵ The phantasm or species received in sense can not directly impress the passive intellect, but the active intellect through the sensible species produces in the passive intellect the intelligible

¹⁰ *Summa Theologica*, translated by Fathers of the English Dominican Province, 1912, Part 1, 75, art. 3. All references are to this translation.

¹¹ *Ibid.*, 84, art. 7.

¹² *Ibid.*, 79, art. 2.

¹³ *Ibid.*, 79, art. 4.

¹⁴ *Ibid.*, 84, art. 7.

¹⁵ *Ibid.*, 85, art. 2.

species or form.¹⁶ Thus the intellect knows directly only the universal, the ideal form, but indirectly through the species it knows the singular.¹⁷ Knowledge of sense is thus prior to knowledge of intellect and complete knowing is the passage of intellect from a state of potentiality to a state of actuality.¹⁸ The likeness of the thing understood is the form of intellect in act; the likeness of sensible things is the form of sense in act.

Thus knowledge depends on a cognitive correspondence of the form arising in sense and then, by an abstracting process, arising in intellect, with the form of the object. Now it must be noted that *neither the sensible species nor the intelligible species are in themselves the object of knowledge*. They are the *means* of knowledge. "Therefore it must be said that the intelligible species is related to the intellect as that by which it understands . . . that by which the sight sees is the likeness of the visible thing; and the likeness of the thing understood, that is, the intelligible species, is the form by which the intellect understands."¹⁹ The cognizance of the means comes after cognizance of that known through the means. "But since the intellect reflects upon itself, by such reflection it understands both its own act of intelligence and the species by which it understands. Thus the intelligible species is that which is understood secondarily; but that which is primarily understood is the object, of which the species is the likeness."²⁰ It is noteworthy that the question which Aquinas propounds in the article from which these selections are drawn is as follows: "Whether the intelligible species abstracted from the phantasm is related to our intellect as that which is understood?"

It is clear that a duality is implicit in this doctrine. It is the *likeness* of the species as means to the object known which obscures the twofold character of the conditions of cognition. When this obscuration is dispelled, the duality appears, and therewith appear problems of later epistemology.

The above account of a typical scholastic position indicates the ideal or immaterial character of the essence which constitutes the species for thought. Now in Aquinas, as in other writers, the influence of the ethico-religious dualisms and their philosophical elucidations is commingled with the Aristotelian distinction between matter and form. And so in Aquinas we find that that which possesses the immateriality and ideality connoted by the concept of form acquires the tincture of immateriality connoted by the nature of a

¹⁶ *Ibid.*, 85, art. 1.

¹⁷ *Ibid.*, 86, art. 1; 75, art. 1.

¹⁸ *Ibid.*, 85, art. 3.

¹⁹ *Ibid.*, 85, art. 2.

²⁰ *Ibid.*, 85, art. 2.

substantial spiritual principle of which thought is the primary power and chiefly expressive of its inmost nature. The more insistent the demand for a clean-cut, sweeping division of existence into spirit-substance and matter-substance, the greater the impediment to the maintaining of that continuity inseparably connected with matter conceived as potentiality and form as the realization of that potentiality.

The doctrine of Aquinas affords illustrations of this; the expected discrepancies are discoverable. His thought concerning the soul and its relation to the body reveal the conflict between tendencies.

First: The soul is "the first principle of life, not a body, but the act of a body."²¹ It is the form of the body; it contains no matter.²² But again, the soul is called the principle of intellectual operation, and is incorporeal;²³ with this must be correlated the assertion that the "intellect which is the principle of intellectual operation is the form of the human body."²⁴ Now Aquinas specifically says that "in man the sensitive soul, the intellectual soul, and the nutritive soul are numerically one."²⁵ These excerpts indicate that Aquinas feels the stress resulting from maintaining the unity of the soul while at the same time asserting the difference between the intellectual power and the other powers. This is, of course, derived from Aristotle's more or less outspoken divorce of pure reason from the soul as part of the form-body composite. The difference between the intellectual soul and the other powers would seem to be, on the one hand, a difference of degree; but on the other hand, Aquinas evidently feels that there is a radical difference in kind. The problem is elided by regarding the sensitive and nutritional souls as being contained virtually in the intellectual soul.

Second: The intellect has "an operation of its own apart from body,"²⁶ but all other powers of the soul, as sense and imagination, require the operation of an organ of the body, or at least have no operation apart from the body. "The intellectual soul itself is an absolute form, and not something composed of matter and form . . . the intellectual soul, and every intellectual substance which has knowledge of forms absolutely, is exempt from composition of matter and form."²⁷ The ability of the intellectual soul to know universals depends upon this freedom from composition, as the context shows;

²¹ *Ibid.*, 75, art. 1.

²² *Ibid.*, art 5.

²³ *Ibid.*, art. 2.

²⁴ *Ibid.*, 76, art. 1.

²⁵ *Ibid.*, 76, art. 3.

²⁶ *Ibid.*, 75, art. 2.

²⁷ *Ibid.*, 75, art. 5.

and the limitation of the sensitive powers to the individual is the result of their dependence upon a bodily organ. Thus the function of the intellectual power necessitates its freedom from corporeality; but this runs counter to the unity of the soul and the organic conception of the human being and the process of knowledge.

Third: The intellectual soul is incorruptible, but not so the sensitive and nutritive souls.²⁸ Intellect and will are powers of the soul as their subject; the powers of the sensitive and nutritive parts are subjected in the composite, that is, are accidents of the totality,²⁹ and so remain only virtually in the intellectual soul after the dissipation of the composite. While the intellectual soul depends in this life upon the operation of sensitive powers for knowledge, in the after-life it will know in some other way. The immortality of the sensitive and nutritive powers, despite the unity of the soul, is a sort of immortality by proxy. Aquinas's meaning seems to be that the intellectual soul as a sort of fulfilment of the powers of the other parts of the soul, their completer realization, gives these powers the benefit of its own immortality. At any rate, the conflict between the unity of the soul and the disparateness of function and character of the various powers is manifest.

Fourth: Despite its independence of corporeal organs, the intellectual soul requires the operation of the sensitive powers in knowing. The ideality of form bridges the apparent gap between the pure incorporeality of intellect and the material entanglements of other powers. But in the face of the various distinctions between powers, it is hard to maintain that form, as form, is equally ideal and immaterial wherever it occurs.

Now let us consider whether we can discern traces of the influence of those dualisms nourished by the ethico-religious movement on the Aristotelian conceptions which Aquinas utilizes. First we note that Aquinas rejects the notion that corporeal and spiritual beings consist of one and the same kind of matter.³⁰ This seemingly implies that there are two kinds of stuff of which things are composed. At least the statement involves something more than the distinction between matter and form. The thought of two kinds of stuff, of substances, dictates the denial. This is substantiated by considering it in connection with two other points, first, the distinction between kinds of creatures, and second, the two uses of the term substance. Three kinds of creatures are enumerated by Aquinas: first, the purely spiritual (*e. g.*, angels); second, the wholly corporeal (inanimate and animate things, excluding human beings?); third, the composite

²⁸ *Ibid.*, 77, art. 5.

²⁹ *Ibid.*, 77, art. 5.

³⁰ *Ibid.*, 50, art. 2.

creature, corporeal and spiritual, which is man.³¹ But if the terms spirit, spiritual, and spiritual substance, as used here refer merely to the ideality of form, there are no wholly corporeal creatures, for all individual things of nature are composites of matter and form. That is, if all that Aquinas has in mind is the matter-form distinction, on this basis there should be only two kinds of creatures: the purely immaterial beings (creatures of form, without matter), and composites of form and matter, including all things animate and inanimate. On the other hand, since Aquinas does distinguish three kinds of creatures, only one of which is composite, wholly corporeal creatures must be creatures of one kind of stuff, and purely spiritual creatures must be creatures of another kind of stuff, man alone being composed of both kinds. There are two possibilities of interpretation: we can identify form with spiritual substance or we can admit that Aquinas's distinctions here are based on a dualistic view that runs counter to the matter-form scheme which he generally adopts. If we assume the first possibility, and identify form and spiritual substance, it follows that the class of men alone possesses form, and all finite things excepting man are simply matter without any form at all, for Aquinas calls man the composite creature. But all finite particular things are composed of matter and form, so this identification seems impossible. This means that we can not reconcile these inconsistencies, but must regard them as springing from a conflict between dualistic ideas and the Aristotelian conceptions. If we accept Aquinas's enumeration of three kinds of creatures, and connect it with the statement that man is composed of a spiritual and corporeal substance, the result must be formulated somewhat in this way: corporeal creatures are unities of matter and form having an ideal aspect in so far as they are forms, but the stuff of which they consist is matter-substance, a substance unlike spiritual substance. Corporeal creatures, in a word, are matter and form, but not spiritual. Angels, however, may be regarded as pure form, and at the same time composed of spiritual substance. But man, the composite, as a particular existing thing is a unity of matter and form, but unlike all other finite things, has super-added a substantial spirit. Man, that is, is matter, form, and spiritual substance.

This is an impossible result, of course; but if we try to interpret the division of creatures according to both principles, we must reach some such hybrid classification. The confusion follows from Aquinas's inability to identify the distinction between matter and form with the distinction between two substances; yet he must find a place for both in his philosophy.

³¹ *Ibid.*, 50, introduction; cf. 75, introduction, where man is said to be composed of a spiritual and corporeal substance.

Consonant with this is the distinction between spiritual form and corporeal form which is implied in at least one place.³² But on the contrary, Aquinas explicitly repudiates the concept of the mediating *forma corporeitatis*. Turning now to the term substance, we are given two meanings: "In one sense it means the *quiddity* of a thing signified by its definition . . . to which we apply the term *essence*. In another sense substance means a subject or *suppositum*, which subsists in the genus of substance. . . . It is also named by three names signifying a reality—that is, a *natural thing* (*res naturæ*), *subsistence*, and *hypostasis*."³³ Substance means, therefore, the essences, the "principle of the species," which is individuated by matter, and also a concrete individual thing. This contains no implications of spiritual substance. A stone is a substance, a thing composed of matter and form, according to the second meaning. But according to the division of creatures, the stone is wholly corporeal. Man, too, is composed of matter and form, but he contains something over and above these elements, for he is a rational and spiritual substance as well as a corporeal substance. His definition, therefore, contains something over and above that which is contained in the definition of any other earthly creature, although they are substances, composites of matter and form. The rational power of man differentiates him from all animals. We have, accordingly, this dilemma: either the soul of man (his form) is a duality, one part of which is spiritual in a sense of the term not implied by the notion of form as such, and, therefore, he is composite as compared with the class of wholly corporeal things; or the form or essence of man differs from that of other mundane things only in degree, and then there is no reason why man should be classed separately as a composite creature, made of two substances, while all other things are not. That is, either the spirit-substance constituent of man is radically unlike form in general, or he is no more and no less composite than any other creature composed of matter and form. This is reminiscent of Aristotle's troubles with the conception of the rational soul as pure form, but it is something more. The temptation towards an unreserved dualistic conception, coupled with the Aristotelian problem, incessantly threatens Aquinas's advocacy of the unity of the soul, the continuity of powers, and the hierarchical continuity of the totality of things. The rational power of man, his capacity for knowledge of universals whose archetypes are the ideas of God, the intellect's transcendence of spatial and temporal conditions—it is this that is man's divine afflatus, that relates him to the other world, and that raises him above the level of natural things to align him with angelic beings. The

³² *Ibid.*, 50, art. 2.

³³ *Ibid.*, 29, art. 2.

graded hierarchy of forms, the inanimate thing, the animate, man, angels, and finally the deity, is cut transversely by a dualistically conceived distinction between the spiritual and material. The point at which this series of substances is traversed by the other conception is the never thoroughly bridged gap between the animal-like powers of man and the power of intellect. As we shall see, this bisection necessitates a readjustment of every element of the series.

In short, form as form can not be the same wherever it occurs. Either the form of man contains that which contrasts it with the general immateriality of form, or in addition to the body-form there is another sort of form partaking of a different nature. Aquinas can not openly equate form and spirit: and he can not avoid doing it surreptitiously. It is the play on the terms substance, form, and matter that smoothes over many awkward situations. Substance at one moment implies that potentiality which is called matter in the matter-form distinction; at another it secretly implies a kind of matter wholly different from corporeality. Again, substance as essence (pure form) has no kind of matter at all; yet there exists immaterial intellectual substances which consist of some stuff—they are spiritual substances. Forms, as essences, are susceptible of hierarchical arrangement based on logical distinctions (accidental and substantial, adherent and separate), with those archetypal forms, the ideas of God, at the summit. But forms are also arranged on a basis of ethico-religious valuation, and this introduces the concept of spirituality and prejudices the relation of form to matter as that of realization to potentiality. To the extent that the spiritual receives its definition from the spirit-matter antithesis, to that extent matter can have no conceivable relation to form, and to that extent matter and form are logically opposed conceptions, and not complementaries.

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(*To be continued.*)

REVIEWS AND ABSTRACTS OF LITERATURE

Acquisition of Skill. WILLIAM HOWARD BATSON. Psychological Review Monograph Supplement, Vol. 21, 1916.

The author, from a review of the literature on the acquisition of skill, raises questions on the following points: the influence of objective and subjective factors on different types of learning and on the same type of learning at different stages of development, the daily fluctuation in the curve, the effect of short and long periods of rest,